

Academic Program Description Form

University Name: Tikrit

Faculty/Institute: Science and mathematic

Scientific Department: Computer Science

Academic or Professional Program Name: Probability and random variables

Final Certificate Name: Bachelor of Computer Science

Academic System: courses

Description Preparation Date:

File Completion Date: 1/4/2024

Signature:

Head of Department Name:

Mohammed Akthim Ahmed

Date:

Signature:

Scientific Associate Name:

Mashary Askar

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature:

Approval of the Dean

1. Program Vision

This academic program description provides a necessary summary of the most important characteristics of the program and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the available opportunities. It is accompanied by a description of each course within the program

2. Program Mission

3. Program Objectives: The academic program in the Computer Science Department aims to:

- ✓ Building the student scientifically and qualifying him to work in the field of computer science.
- ✓ Give a general idea about the material
- ✓ The student's knowledge of what probability is and how to find it
- ✓ How to solve probability problems
- ✓ Types of probability and ways to determine it
- ✓ Permutations and combinations and their use in solving probabilities
- ✓ Random variables and their types

4. Program Accreditation

1- Gaining experience and knowledge in the basics of probability and variables.

A2- How to find probabilities and solve problems.

A3- Solve possibilities in more than one way.

A4- Knowing the types of random variables and methods for solving them.

B - The skills objectives of the course

How to find a solution in any field requires resorting to scientific methods to reach the desired goals in light of the available capabilities, that is, the subject of probability and random variables uses quantitative methods to help in making optimal decisions..

5. Other external influences
<ul style="list-style-type: none"> ✓ Traditional lectures and discussion style ✓ Laboratory activities and preparing reports ✓ Advanced lectures (presentation)
Courses structure

Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation method
1	4	Introducing the student to what probabilistic probability is Types of probability	probability	Traditional lectures, discussion style, and presentation	Discussion and tests
2	4	Types of probability	Types of probability	Traditional lectures, discussion style, and presentation	Discussion and tests
3	4	Introducing the student to independent incidents	Independent incidents	Traditional lectures, discussion style, and presentation	Discussion and tests
4	4	Informing the student about the most important laws of probability	Laws of probability	Traditional lectures, discussion style, and presentation	Discussion and tests
5	4	Introducing the student to permutations and combinations and their use in solving probability problems	permutations and combinations In probability	Traditional lectures, discussion style, and presentation	Discussion and tests
6	4	Explain what conditional probability is	Conditional probability	Traditional lectures, discussion style, and presentation	Discussion and tests
7	4	Introducing the student to the random variable	the random variable	Traditional lectures, discussion style, and presentation	Discussion and tests
8	4	Explaining the types of random	Types of random	Traditional lectures, discussion style,	Discussion and tests

		variables	variables	and presentation	
9	4	Discrete random variables and their laws	Discrete random variables	Traditional lectures, discussion style, and presentation	Discussion and tests
10	4	Finding the Cumulative Distribution Function	Cumulative Distribution Function	Traditional lectures, discussion style, and presentation	Discussion and tests
11	4	Continuous random variables and their laws	Continuous random variables	Traditional lectures, discussion style, and presentation	Discussion and tests
12	4	Co-random variables	Co-random variables	Traditional lectures, discussion style, and presentation	Discussion and tests
13	4	The dispersion of the variable is random	The dispersion of the variable is random	Traditional lectures, discussion style, and presentation	Discussion and tests
14	4	Poisson distribution	Poisson distribution	Traditional lectures, discussion style, and presentation	Discussion and tests

13. Course development plan

Plans are made to develop the students' personalities by holding discussion sessions with them and asking them to submit weekly reports

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15. The most important sources of information about the program

College website.

The department's website and email.

16. Infrastructure

A- Required textbooks:

B- Main references (sources)	<ul style="list-style-type: none">• Lectures presented by the subject teacher• Books available in the college library
C- Recommended books and references (scientific journals, reports,...)	Probability and statistics
D- Electronic references, Internet sites	Any other materials available on the web.